GenCore version 5.1.3

OM nucleic - nucleic search, using sw model

Run on: February 24, 2003, 10:13:33 ; Search time 95.3285 Seconds
(without alignments)
10583.354 Million cell updates/sec

Title: US-09-922-895-4
Perfect score: 448
Sequence: 1 TAGGTCAGATGCAGAAAATT.....CCCTGCTTAATGAAAAGCTT 448

Scoring table: IDENTITY_NUC
Gapop 10.0 , Gapext 1.0

Searched: 2185239 seqs, 1125999159 residues

Total number of hits satisfying chosen parameters: 4370478

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

	Result No.	Score	% Query Match	Length	DB	ID	Description
	1	448	100.0	1717	24	ABL67066	Thyroid cancer rel
	2	448	100.0	1717	24	AAD25221	Human chemokine (C
	3	448	100.0	1717	24	AAD25245	Human chemokine (C
	4	448	100.0	1915	18	AAT85162	Human chemokine re
	5	448	100.0	5099	18	AAT93601	Human eosinophil e
	6	380.4	84.9	1689	17	AAT31334	CC-chemokine recep
	7	380.4	84.9	1689	18	AAT58783	Human C-C chemokin
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	9	380.4	84.9	1689	21	AAF21268	Human low adenosin
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c	14	339.2	75.7	7201	24	ABL32337	Human immune syste
	15	294.4	65.7	7201	24	ABL32336	Human immune syste
	16	105	23.4	1201	21	AAF21267	Human low adenosin
	17	105	23.4	1201	21	AAA35145	Human adenosine re
	18	105	23.4	1201	24	ABK84282	Human cDNA differe
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c	20	46.8	10.4	7025	24	AAS63351	Chemically pretrea
c	21	43	9.6	1348	22	AAH74716	Nucleotide sequenc
c	22	42.2	9.4	2865	22	AAS46320	Tumour suppressor
c	23	42.2	9.4	2865	24	ABN80051	Human chemically m
c	24	42.2	9.4	5269	24	ABL34056	Human immune syste
c	25	42.2	9.4	9905	24	ABL32063	Human immune syste
c	26	42	9.4	18512	24	ABL32976	Human immune syste
c	27	42	9.4	33053	24	ABQ67005	Human angiogenesis
c	28	41.6	9.3	6078	22	AAS46405	Tumour suppressor
c	29	41.6	9.3	6078	24	ABL33136	Human immune syste
c	30	41.6	9.3	7445	24	ABK40010	Human chemically p
c	31	41.6	9.3	7445	24	ABL32851	Human immune syste
c	32	41.6	9.3	17294	24	ABL32986	Human immune syste
c	33	41.4	9.2	19459	24	ABL70527	Chemically treated
c	34	41.4	9.2	19459	24	ABK31212	Signal transductio
c	35	41.2	9.2	15548	24	ABL34155	Human immune syste
c	36	41.2	9.2	83391	24	ABQ67093	Human angiogenesis
c	37	41	9.2	498	24	ABN92804	Staphylococcus epi
c	38	41	9.2	2908	22	AAH54995	S. epidermidis gen
	39	40.8	9.1	375	22	AAF65616	Novel human polynu
	40	40.8	9.1	379	22	AAF65615	Novel human polynu
c	41	40.8	9.1	10467	24	ABL49302	Human polynucleoti
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c	44	40.6	9.1	6621	24	ABL70156	Chemically treated
c	45	40.6	9.1	6621	24	ABK33933	Human DNA for stag

ALIGNMENTS

RESULT 1
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ID ABL67066 standard; DNA; 1717 BP.
XX
AC ABL67066;
XX
DT 15-MAY-2002 (first entry)
XX
DE Thyroid cancer related gene sequence SEQ ID NO:5403.
XX
KW Human; cancer; colon; breast; ovary; oesophagus; kidney; thyroid;
KW stomach; lung; prostate; pancreas; carcinoma; antitumour; cancerous;
KW cytostatic; gene therapy; antineoplastic; Wilm's tumour; adenocarcinoma;
KW gene; ds.
XX
OS Homo sapiens.
XX
PN WO200194629-A2.
XX
PD 13-DEC-2001.
XX
PF 30-MAY-2001; 2001WO-US10838.
XX
PR 05-JUN-2000; 2000US-209473P.
PR 05-JUN-2000; 2000US-209531P.
PR 18-SEP-2000; 2000US-233133P.
PR 18-SEP-2000; 2000US-233617P.
PR 20-SEP-2000; 2000US-234009P.
PR 20-SEP-2000; 2000US-234034P.
PR 20-SEP-2000; 2000US-234052P.
PR 22-SEP-2000; 2000US-234509P.
PR 22-SEP-2000; 2000US-234567P.

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PR   25-SEP-2000; 2000US-234923P.
PR   25-SEP-2000; 2000US-234924P.
PR   25-SEP-2000; 2000US-235077P.
PR   25-SEP-2000; 2000US-235082P.
PR   25-SEP-2000; 2000US-235134P.
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PR   26-SEP-2000; 2000US-235637P.
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PR   02-OCT-2000; 2000US-237316P.
PR   03-OCT-2000; 2000US-237425P.
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PR   03-OCT-2000; 2000US-237606P.
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PR   01-NOV-2000; 2000US-245084P.
XX
PA   (AVAL-) AVALON PHARM.
XX
PI   Young PE, Augustus M, Carter KC, Ebner R, Endress G, Horrigan S;
PI   Soppet DR, Weaver Z;
XX
DR   WPI; 2002-188264/24.
XX
PT   Screening for anti-neoplastic agent involves exposing cells to a
PT   chemical agent to be tested for anti-neoplastic activity, and
PT   determining a change in expression of a gene of a signature gene set -
XX
PS   Claim 1; SEQ ID 5403; 44pp; English.
XX
CC   The present invention describes a method (M1) for screening for an
CC   anti-neoplastic agent. The method involves exposing cells to a chemical
CC   agent to be tested for anti-neoplastic activity, determining a change in
CC   expression of at least one gene (I) of a signature gene set, where (I)
CC   comprises a sequence (S) selected from 8447 sequences (given in ABL61664
CC   to ABL70110), or is at least 95% identical to (S), where a change in
CC   expression is indicative of anti-neoplastic activity. (I) has cytostatic
CC   activity and can be used in gene therapy. M1 can be used for screening
CC   an anti-neoplastic agent, and can be used for producing a product which
CC   is the data collected with respect to the anti-neoplastic agent as a
CC   result of M1, and the data is sufficient to convey the chemical
CC   structure and/or properties of the agent. M1 can be used in the
CC   treatment of cancer such as colon, breast, stomach, lung, thyroid,
CC   oesophageal, ovarian, kidney, prostate or pancreatic cancer,
CC   adenocarcinoma, carcinoma, clear cell cancer, infiltrating ductal cancer,
CC   infiltrating lobular cancer, squamous cell carcinoma, neuroendocrine
CC   carcinoma, papillary carcinoma and Wilm's tumour.
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SQ   Sequence 1717 BP; 434 A; 428 C; 351 G; 504 T; 0 other;

  Query Match            100.0%;  Score 448;  DB 24;  Length 1717;
  Best Local Similarity  100.0%;  Pred. No. 7.8e-105;
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Qy     121 TTGAAGACACTGAAATATACACACAGCAGTAGCAGTAGATGCATGTACCCTAAGGTCATT 180
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Qy     301 TGCCGCTACAAAAAGGTAAAACTTTTTATATTTTATACATTAACTTCAGCCAGCTATTGA 360
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Qy     421 AGTTCTTTCCCTGCTTAATGAAAAGCTT 448
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Db    1690 AGTTCTTTCCCTGCTTAATGAAAAGCTT 1717


RESULT 2
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ID   AAD25221 standard; DNA; 1717 BP.
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AC   AAD25221;
XX
DT   12-MAR-2002  (first entry)
XX
DE   Human chemokine (C-C motif) receptor 3 (CCR3) gene #1.
XX
KW   Human; chemokine (C-C motif) receptor 3; CCR3 gene; haplotyping;
KW   genotyping; type IV hypersensitivity reaction; HIV-1; gene therapy;
KW   human immunodeficiency virus 1; single nucleotide polymorphism; SNP;
KW   chromosome 3p21.3; ds.
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PD   22-NOV-2001.
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PF   18-MAY-2001; 2001WO-US16278.
XX
PR   18-MAY-2000; 2000US-205191P.
```

XX
PA (GENA-) GENAISSANCE PHARM INC.
XX
PI Choi JY, Kazemi A, Koshy B;
XX
DR WPI; 2002-055681/07.
DR P-PSDB; AAE15320.
XX
PT Isolated polymorphic variants of chemokine (C-C motif) receptor 3
PT (CCR3) gene useful for studying function of CCR3, expressing the CCR3
PT protein and to screen drugs to treat CCR3 activity-related diseases -
XX
PS Example 1; Fig 1; 53pp; English.
XX
CC The invention relates to genetic variants of human chemokine (C-C motif)
CC receptor 3 (CCR3) gene. The invention also relates to compositions and
CC methods for haplotyping and/or genotyping the CCR3 gene in an individual.
CC Polynucleotides of the invention are useful for studying the expression
CC and function of CCR3 and in expressing CCR3 proteins for use in screening
CC candidate drugs to treat diseases related to CCR3 activity. They are also
CC used in gene therapy. The polymorphism and haplotype data is useful for
CC validating whether CCR3 is a suitable target for drugs to treat type IV
CC hypersensitivity reactions and human immunodeficiency virus (HIV)-1,
CC screening for such drugs and reducing bias cells in clinical trials of
CC such drugs. The genotyping method is useful for determining whether an
CC individual has one haplotype or haplotype pairs. The haplotyping method
CC is useful for improving the efficiency and outcome of several steps in
CC the discovery and development of drugs for treating diseases associated
CC with CCR3 activity such as type IV hypersensitivity reactions and HIV-1.
CC The present sequence is human CCR3 gene located on chromosome 3p21.3.
XX
SQ Sequence 1717 BP; 434 A; 428 C; 351 G; 504 T; 0 other;

Query Match 100.0%; Score 448; DB 24; Length 1717;
Best Local Similarity 100.0%; Pred. No. 7.8e-105;
Matches 448; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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Db    1630 TATAAATAAAACATTTTCACACAATACAATAAGTTAACTATTTTATTTTCTAATGTGCCT 1689

Qy     421 AGTTCTTTCCCTGCTTAATGAAAAGCTT 448
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Db    1690 AGTTCTTTCCCTGCTTAATGAAAAGCTT 1717
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RESULT 3
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ID AAD25245 standard; DNA; 1717 BP.
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AC AAD25245;
XX
DT 12-MAR-2002 (first entry)
XX
DE Human chemokine (C-C motif) receptor 3 (CCR3) gene #2.
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KW Human; chemokine (C-C motif) receptor 3; CCR3 gene; haplotyping;
KW genotyping; type IV hypersensitivity reaction; HIV-1; gene therapy;
KW human immunodeficiency virus 1; polymorphism; chromosome 3p21.3; ds.
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XX
PN WO200187908-A2.
XX
PD 22-NOV-2001.
XX
PF 18-MAY-2001; 2001WO-US16278.
XX
PR 18-MAY-2000; 2000US-205191P.
XX
PA (GENA-) GENAISSANCE PHARM INC.
XX
PI Choi JY, Kazemi A, Koshy B;
XX
DR WPI; 2002-055681/07.
XX
PT Isolated polymorphic variants of chemokine (C-C motif) receptor 3
PT (CCR3) gene useful for studying function of CCR3, expressing the CCR3
PT protein and to screen drugs to treat CCR3 activity-related diseases -
XX
PS Claim 5; Page 53; 53pp; English.
XX
CC The invention relates to genetic variants of human chemokine (C-C motif)
CC receptor 3 (CCR3) gene. The invention also relates to compositions and
CC methods for haplotyping and/or genotyping the CCR3 gene in an individual.
CC Polynucleotides of the invention are useful for studying the expression
CC and function of CCR3 and in expressing CCR3 proteins for use in screening
CC candidate drugs to treat diseases related to CCR3 activity. They are also
CC used in gene therapy. The polymorphism and haplotype data is useful for
CC validating whether CCR3 is a suitable target for drugs to treat type IV
CC hypersensitivity reactions and human immunodeficiency virus (HIV)-1,
CC screening for such drugs and reducing bias cells in clinical trials of
CC such drugs. The genotyping method is useful for determining whether an
CC individual has one haplotype or haplotype pairs. The haplotyping method
CC is useful for improving the efficiency and outcome of several steps in
CC the discovery and development of drugs for treating diseases associated
CC with CCR3 activity such as type IV hypersensitivity reactions and HIV-1.
CC The present sequence is human CCR3 gene located on chromosome 3p21.3.
XX
SQ Sequence 1717 BP; 434 A; 427 C; 350 G; 502 T; 4 other;

Query Match 100.0%; Score 448; DB 24; Length 1717;
Best Local Similarity 100.0%; Pred. No. 7.8e-105;
Matches 448; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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Qy      1 TAGGTCAGATGCAGAAAATTGCCTAAAGAGGAAGGACCAAGGAGATGAAGCAAACACATT 60
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Qy    121 TTGAAGACACTGAAATATACACACAGCAGTAGCAGTAGATGCATGTACCCTAAGGTCATT 180
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RESULT 4
AAT85162
ID AAT85162 standard; cDNA; 1915 BP.
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AC AAT85162;
XX
DT 14-DEC-1997 (first entry)
XX
DE Human chemokine receptor 88-2B cDNA.
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KW Chemokine receptor 88-2B; atherosclerosis; rheumatoid arthritis;
KW tumour; asthma; viral infection; AIDS; inflammation;
KW autoimmune disease; therapy; diagnosis; leukocyte trafficking;
KW G protein coupled receptor; human; ss.
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OS Homo sapiens.
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PR 20-DEC-1995; 95US-0575967.
XX
PA (ICOS-) ICOS CORP.
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PI Gray PW, Raport CJ, Schweickart VL;
XX
DR WPI; 1997-341689/31.
DR P-PSDB; AAW27124.
XX
PT New nucleic acid encoding chemokine receptors 88-2B and 88C - used
PT to modulate leukocyte trafficking, e.g. for treatment of
PT inflammation, tumours, viral infections, autoimmune diseases, etc.
XX
PS Claim 7; Page 48-50; 65pp; English.
XX
CC This sequence comprises a full-length cDNA coding for novel human
CC chemokine receptor 88-2B (AAW27124), a G protein coupled receptor that
CC is involved in leukocyte trafficking. The 88-2B cDNA was obtained
CC from a macrophage cDNA library using 88-2B-specific primers. A
CC full-length clone (see AAT89161) for chemokine receptor 88C (AAW27123)
CC was also obtained. 88C and 88-2B cDNAs can be used to produce
CC recombinant polypeptides in transformed host cells for use in the
CC treatment of e.g. atherosclerosis, rheumatoid arthritis, tumours,
CC asthma, viral infection, AIDS and inflammatory conditions. Nucleic
CC acid fragments can be used to isolate genomic sequences, to detect
CC alleles of the gene (for diagnosis or in gene therapy), to alter
CC receptor genetics to facilitate identification of modulators and to
CC produce knockout animals, and (antisense forms) to alter/study the
CC genetics and expression of the receptor.
XX
SQ Sequence 1915 BP; 488 A; 470 C; 373 G; 584 T; 0 other;

```
  Query Match             100.0%;  Score 448;  DB 18;  Length 1915;
  Best Local Similarity   100.0%;  Pred. No. 8.1e-105;
  Matches  448;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 TAGGTCAGATGCAGAAAATTGCCTAAAGAGGAAGGACCAAGGAGATGAAGCAAACACATT 60
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db   1427 TAGGTCAGATGCAGAAAATTGCCTAAAGAGGAAGGACCAAGGAGATGAAGCAAACACATT 1486

Qy     61 AAGCCTTCCACACTCACCTCTAAAACAGTCCTTCAAACTTCCAGTGCAACACTGAAGCTC 120
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db   1487 AAGCCTTCCACACTCACCTCTAAAACAGTCCTTCAAACTTCCAGTGCAACACTGAAGCTC 1546

Qy    121 TTGAAGACACTGAAATATACACACAGCAGTAGCAGTAGATGCATGTACCCTAAGGTCATT 180
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db   1547 TTGAAGACACTGAAATATACACACAGCAGTAGCAGTAGATGCATGTACCCTAAGGTCATT 1606

Qy    181 ACCACAGGCCAGGGGCTGGGCAGCGTACTCATCATCAACCCTAAAAAGCAGAGCTTTGCT 240
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db   1607 ACCACAGGCCAGGGGCTGGGCAGCGTACTCATCATCAACCCTAAAAAGCAGAGCTTTGCT 1666

Qy    241 TCTCTCTCTAAAATGAGTTACCTACATTTTAATGCACCTGAATGTTAGATAGTTACTATA 300
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db   1667 TCTCTCTCTAAAATGAGTTACCTACATTTTAATGCACCTGAATGTTAGATAGTTACTATA 1726

Qy    301 TGCCGCTACAAAAAGGTAAAACTTTTTATATTTTATACATTAACTTCAGCCAGCTATTGA 360
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db   1727 TGCCGCTACAAAAAGGTAAAACTTTTTATATTTTATACATTAACTTCAGCCAGCTATTGA 1786

Qy    361 TATAAATAAAACATTTTCACACAATACAATAAGTTAACTATTTTATTTTCTAATGTGCCT 420
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db   1787 TATAAATAAAACATTTTCACACAATACAATAAGTTAACTATTTTATTTTCTAATGTGCCT 1846

Qy    421 AGTTCTTTCCCTGCTTAATGAAAAGCTT 448
          ||||||||||||||||||||||||||||
Db   1847 AGTTCTTTCCCTGCTTAATGAAAAGCTT 1874
```

RESULT 5
AAT93601
ID AAT93601 standard; cDNA; 5099 BP.
XX
AC AAT93601;
XX
DT 07-MAY-1998 (first entry)
XX
DE Human eosinophil eotaxin receptor CC CKR3 encoding cDNA.
XX
KW Eosinophil eotaxin receptor; CC CKR3; human; treatment; dermatitis;
KW atopic condition; allergic rhinitis; conjunctivitis; bronchial asthma;
KW beta-chemokine receptor; viral infection; ss.
XX
OS Homo sapiens.

```
XX
FH   Key             Location/Qualifiers
FT   misc_feature    1..3586
FT                   /*tag= a
FT                   /note= "5' genomic DNA flanking sequence"
FT   CDS             3587..4654
FT                   /*tag= b
FT                   /product= "human eosinophil eotaxin receptor"
FT   misc_feature    4655..5099
FT                   /*tag= c
FT                   /note= "terminator region"
XX
PN   WO9741154-A1.
XX
PD   06-NOV-1997.
XX
PF   24-APR-1997;   97WO-US06568.
XX
PR   17-JAN-1997;   97GB-0000894.
PR   26-APR-1996;   96US-0016158.
PR   26-APR-1996;   96US-0017113.
XX
PA   (MERI ) MERCK & CO INC.
XX
PI   Daugherty BL,  Demartino JA,  Siciliano SJ,  Springer MS;
XX
DR   WPI; 1997-549685/50.
DR   P-PSDB; AAW31850.
XX
PT   New isolated human eosinophil eotaxin receptor - used to develop
PT   products for treating and preventing atopic conditions e.g. allergic
PT   rhinitis, dermatitis, conjunctivitis and bronchial asthma
XX
PS   Claims 12, 13, 14; Pages 16-20; 51pp; English.
XX
CC   This cDNA encodes a human eosinophil eotaxin receptor. This 5099 base
CC   pair sequence comprises a 1065 base pair open reading frame encoding a
CC   355 amino acid eosinophil eotaxin receptor protein, flanked by a 5'
CC   genomic DNA sequence and a 3' terminator region. This novel eosinophil
CC   eotaxin receptor is a human beta-chemokine receptor designated CC CKR3.
CC   Agents which bind to this eosinophil eotaxin receptor can be used for
CC   the treatment and prevention of atopic conditions such as allergic
CC   rhinitis, dermatitis, conjunctivitis and bronchial asthma. Agents which
CC   block this eosinophil eotaxin receptor can be used to prevent viral
CC   infection in healthy individuals and slow or halt viral progression
CC   in infected patients.
XX
SQ   Sequence 5099 BP; 1388 A; 1171 C; 1013 G; 1527 T; 0 other;

  Query Match             100.0%;  Score 448;  DB 18;  Length 5099;
  Best Local Similarity   100.0%;  Pred. No. 1.1e-104;
  Matches  448;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       1 TAGGTCAGATGCAGAAAATTGCCTAAAGAGGAAGGACCAAGGAGATGAAGCAAACACATT 60
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    4652 TAGGTCAGATGCAGAAAATTGCCTAAAGAGGAAGGACCAAGGAGATGAAGCAAACACATT 4711

Qy      61 AAGCCTTCCACACTCACCTCTAAAACAGTCCTTCAAACTTCCAGTGCAACACTGAAGCTC 120
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    4712 AAGCCTTCCACACTCACCTCTAAAACAGTCCTTCAAACTTCCAGTGCAACACTGAAGCTC 4771

Qy     121 TTGAAGACACTGAAATATACACACAGCAGTAGCAGTAGATGCATGTACCCTAAGGTCATT 180
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    4772 TTGAAGACACTGAAATATACACACAGCAGTAGCAGTAGATGCATGTACCCTAAGGTCATT 4831

Qy     181 ACCACAGGCCAGGGGCTGGGCAGCGTACTCATCATCAACCCTAAAAAGCAGAGCTTTGCT 240
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    4832 ACCACAGGCCAGGGGCTGGGCAGCGTACTCATCATCAACCCTAAAAAGCAGAGCTTTGCT 4891

Qy     241 TCTCTCTCTAAAATGAGTTACCTACATTTTAATGCACCTGAATGTTAGATAGTTACTATA 300
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    4892 TCTCTCTCTAAAATGAGTTACCTACATTTTAATGCACCTGAATGTTAGATAGTTACTATA 4951

Qy     301 TGCCGCTACAAAAAGGTAAAACTTTTTATATTTTATACATTAACTTCAGCCAGCTATTGA 360
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    4952 TGCCGCTACAAAAAGGTAAAACTTTTTATATTTTATACATTAACTTCAGCCAGCTATTGA 5011

Qy     361 TATAAATAAAACATTTTCACACAATACAATAAGTTAACTATTTTATTTTCTAATGTGCCT 420
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    5012 TATAAATAAAACATTTTCACACAATACAATAAGTTAACTATTTTATTTTCTAATGTGCCT 5071

Qy     421 AGTTCTTTCCCTGCTTAATGAAAAGCTT 448
          ||||||||||||||||||||||||||||
Db    5072 AGTTCTTTCCCTGCTTAATGAAAAGCTT 5099


RESULT 6
AAT31334
ID   AAT31334 standard; DNA; 1689 BP.
XX
AC   AAT31334;
XX
DT   15-NOV-1996  (first entry)
XX
DE   CC-chemokine receptor 3 genomic DNA.
XX
KW   CC-chemokine receptor 3; CKP-3; Eos-L2; inhibitor; antisense;
KW   antiinflammatory; eosinophil; ds.
XX
OS   Homo sapiens.
XX
FH   Key             Location/Qualifiers
FT   CDS             181..1248
FT                   /*tag= a
FT   variation       1007..1008
FT                   /*tag= b
FT                   /note= "CKR-3 genomic clone has CG at positions
FT                          1007-1008, coding for threonine (ACG) at
FT                          position 276; a cDNA clone has GC at
FT                          these positions, coding for serine (AGC)"
FT   misc_difference 1291
FT                   /*tag= c
FT                   /note= "base n at position 1291 is not identified
FT                          in the specification"
XX
PN   WO9622371-A2.
XX
PD   25-JUL-1996.
XX
PF   19-JAN-1996;   96WO-US00608.
XX
PR   19-JAN-1995;   95US-0375199.
XX
PA   (BGHM ) BRIGHAM & WOMENS HOSPITAL.
PA   (CHIL-) CHILDRENS MEDICAL CENT.
PA   (LEUK-) LEUKOSITE INC.
XX
PI   Gerard CJ,  Gerard NP,  Mackay CR,  Ponath PD,  Post TW;
PI   Qin S;
XX
DR   WPI; 1996-354528/35.
DR   P-PSDB; AAW03376.
XX
PT   Mammalian chemokine receptor-3 and related nucleic acids - useful to
PT   identify receptor inhibitors to treat inflammatory disease, e.g.
PT   autoimmune disorders, certain cancers, etc.
XX
PS   Claim 1; Page 109; 153pp; English.
XX
CC   A genomic DNA clone (T31334) codes for a novel receptor (W03376),
CC   designated Eos L2 or C-C chemokine receptor 3 (CKR-3), involved
CC   in leukocyte migration associated with inflammation.  It was
CC   isolated from a human genomic library in EMBL3 SP7/T7 vector by
CC   screening with a PCR fragment generated from eosinophil cDNA
CC   using degenerate primers (see also T31337-44).  A CKR-3 cDNA
CC   clone (T31335) was also isolated, and a consensus sequence is
```

```
CC   given in T31336.  The genomic and cDNA clones can be used for
CC   the prodn. of recombinant CKR-3 in host cells, or to design
CC   antisense sequences useful for treating inflammatory disease.
XX
SQ   Sequence 1689 BP; 431 A; 416 C; 344 G; 497 T; 1 other;

  Query Match             84.9%;  Score 380.4;  DB 17;  Length 1689;
  Best Local Similarity   98.4%;  Pred. No. 1.5e-87;
  Matches  436;  Conservative    0;  Mismatches    2;  Indels    5;  Gaps    5;

Qy       7 AGATGCAGAAAATTGCCTAAAGAGGAAGGACCAAGGAGATGAAGCAAACACATTAAGCCT 66
          |||||||||||||||||||||||||||||||||||||||| ||||||||||||||||||
Db    1251 AGATGCAGAAAATTGCCTAAAGAGGAAGGACCAAGGAGATNAAGCAAACACATTAAGCCT 1310

Qy      67 TCCACACTCACCTCTAAAACAGTCCTTCAAA-CTTCCAGTGCAACACTGAAGCTCTTGAA 125
          |||||||||||||||||||||||||||||| |||||||||||||||||||||||||| ||
Db    1311 TCCACACTCACCTCTAAAACAGTCCTTCAAACCTTCCAGTGCAACACTGAAGCTCTT-AA 1369

Qy     126 GACACTGAAATATACACACAGCAGTAGCAGTAGATGCATGTACCCTAAGGTCATTACCAC 185
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    1370 GACACTGAAATATACACACAGCAGTAGCAGTAGATGCATGTACCCTAAGGTCATTACCAC 1429

Qy     186 AGGCCAGGGGCTGGGCAGCGTACTCATCATCAACCCTAAAAAGCAGAGCTTTGCTTCTCT 245
          |||||| |||||||||||||||||||||||| |||||||||||||||||||||||||||
Db    1430 AGGCCA-GGGCTGGGCAGCGTACTCATCATCAA-CCTAAAAAGCAGAGCTTTGCTTCTCT 1487

Qy     246 CTCTAAAATGAGTTACCTACATTTTAATGCACCTGAATGTTAGATAGTTACTATATGCCG 305
          |||||||||||||||| ||||||||||||||||||||||||||||||||||||||||||
Db    1488 CTCTAAAATGAGTTACCTATATTTTAATGCACCTGAATGTTAGATAGTTACTATATGCCG 1547

Qy     306 CTACAAAAAGGTAAAACTTTTTATATTTTATACATTAACTTCAGCCAGCTATTGATATAA 365
          |||||||||||||||||||||||||||||||||||||||||||||||||| ||||||
Db    1548 CTACAAAAAGGTAAAACTTTTTATATTTTATACATTAACTTCAGCCAGCTATT-ATATAA 1606

Qy     366 ATAAAACATTTTCACACAATACAATAAGTTAACTATTTTATTTTCTAATGTGCCTAGTTC 425
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    1607 ATAAAACATTTTCACACAATACAATAAGTTAACTATTTTATTTTCTAATGTGCCTAGTTC 1666

Qy     426 TTTCCCTGCTTAATGAAAAGCTT 448
          |||||||||||||||||||||||
Db    1667 TTTCCCTGCTTAATGAAAAGCTT 1689


RESULT 7
AAT58783
ID   AAT58783 standard; DNA; 1689 BP.
XX
AC   AAT58783;
XX
DT   30-SEP-1997  (first entry)
XX
DE   Human C-C chemokine receptor 3 DNA.
XX
KW   Human; eotaxin; eosinophil; chemoattractant; stimulation;
KW   accumulation; attraction; chemotaxis; diagnosis; prevention;
KW   treatment; disease; inflammation; allergy; asthma; rhinitis;
KW   hypersensitivity; lung; pneumonia; Loeffler's; syndrome;
KW   interstitial; ILD; idiopathic pulmonary fibrosis;
KW   rheumatoid arthritis; systemic; lupus erythematosus; SLE;
KW   ankylosing spondylitis; sclerosis; Sjorgen's; polymyositis;
KW   dermatomyositis; bowel; anaphylaxis; drug; penicillin;
KW   cephalosporin; insect sting; Crohn's; ulcerative colitis;
KW   spondyloarthropathy; scleroderma; psoriasis; dermatosis;
KW   dermatitis; eczema; atopic; urticaria; necrotising; cutaneous;
KW   vasculitis; myositis; fascitis; multiple sclerosis;
KW   myasthenia gravis; juvenile onset diabetes; glomerulonephritis;
KW   autoimmune; thyroiditis; Bechet's; graft; rejection;
KW   transplantation; allograft; graft versus host; cancer;
KW   leukocyte infiltration; reperfusion injury; atherosclerosis;
KW   haematologic malignancy; septic; endotoxic; shock;
KW   polymyositis; dermatomyositis; immunosuppression; immunodeficiency;
KW   AIDS; radiation therapy; chemotherapy; autoimmune; corticosteroid;
KW   C-C chemokine receptor 3; CRK3; ss.
XX
OS   Homo sapiens.
XX
FH   Key             Location/Qualifiers
FT   CDS             181..1248
FT                   /*tag= a
FT                   /product= CRK3
XX
PN   WO9700960-A1.
XX
PD   09-JAN-1997.
XX
PF   21-JUN-1996;   96WO-US10723.
XX
PR   23-JUN-1995;   95US-0494093.
XX
PA   (LEUK-) LEUKOSITE INC.
XX
PI   MacKay C,  Newman W,  Ponath PD,  Qin S,  Ringler DJ;
XX
DR   WPI; 1997-087387/08.
DR   P-PSDB; AAW10100.
XX
PT   New isolated human eotaxin gene - used to develop prods. for the
PT   diagnosis and treatment of e.g. inflammation, allergies, auto-immune
PT   disease, infections and tumours
XX
PS   Example 7; Page 97; 130pp; English.
XX
CC   The present sequence encodes human C-C chemokine receptor 3 (CRK3),
CC   to which human eotaxin (hE), an eosinophil specific chemoattractant
CC   capable of stimulating eosinophil accumulation and/or attracting
CC   eosinophils (including chemotaxis), binds.
CC   hE can be used to develop products for the diagnosis, prevention or
CC   treatment of hE associated diseases or conditions. The products can
CC   be used to treat inflammatory or allergic diseases and conditions,
CC   including respiratory allergic diseases (e.g. asthma, allergic
CC   rhinitis, hypersensitivity lung diseases or pneumonitis,
CC   eosinophilic pneumonias such as Loeffler's syndrome and chronic
CC   eosinophilic pneumonia, interstitial lung diseases (ILD) such as
CC   idiopathic pulmonary fibrosis or ILD associated with rheumatoid
CC   arthritis, systemic lupus erythematosus (SLE), ankylosing
CC   spondylitis, systemic sclerosis, Sjorgen's syndrome, polymyositis
CC   or dermatomyositis), systemic anaphylaxis or hypersensitivity
CC   responses, drug allergies (e.g. to penicillin and cephalosporins),
CC   insect sting allergies, inflammatory bowel diseases (e.g. Crohn's
CC   disease and ulcerative colitis), spondyloarthropathies,
CC   scleroderma, psoriasis and inflammatory dermatoses (e.g.
CC   dermatitis, eczema, atopic dermatitis, allergic contact dermatitis,
CC   urticaria and necrotising, cutaneous and hypersensitivity
CC   vasculitis), eosinophilic myositis and fascitis, multiple
CC   sclerosis, SLE, myasthenia gravis, juvenile onset diabetes,
CC   glomerulonephritis, autoimmune thyroiditis, Bechet's disease, graft
CC   rejection (e.g in transplantation) including allograft rejection or
CC   graft versus host disease and cancers with leukocyte infiltration
CC   of the skin or organs. The products can also be used to treat other
CC   diseases or conditions requiring the inhibition of undesirable
CC   inflammatory responses, including reperfusion injury,
CC   atherosclerosis, certain haematologic malignancies, cytokine
CC   induced toxicity (e.g. septic or endotoxic shock), polymyositis,
CC   dermatomyositis, immunosuppression (e.g. in individuals with
CC   immunodeficiency syndromes such as AIDS, undergoing radiation
CC   therapy, chemotherapy, therapy for autoimmune disease or other drug
CC   therapy, such as corticosteroid therapy, which causes
CC   immunosuppression), immunosuppression due to (e.g. congenital)
CC   deficiency (e.g in eotaxin) or infectious diseases such as parasitic
CC   diseases.
CC   Degenerate primers based on the guinea pig eotaxin amino acid
CC   sequence were used for the reverse transcriptase polymerase chain
CC   reaction (RT-PCR) amplification of RNA isolated from inflamed,
CC   eosinophilic lung tissue obtained from Balb/c mice sensitised to
CC   ovalbumin. The amplification product was used as a probe to screen
CC   a human genomic library in vector EMBL3 SP6/T7 to obtain the hE
```

```
CC   gene.
XX
SQ   Sequence 1689 BP; 431 A; 416 C; 344 G; 497 T; 1 other;

  Query Match             84.9%;  Score 380.4;  DB 18;  Length 1689;
  Best Local Similarity   98.4%;  Pred. No. 1.5e-87;
  Matches  436;  Conservative    0;  Mismatches    2;  Indels    5;  Gaps    5;

Qy       7 AGATGCAGAAAATTGCCTAAAGAGGAAGGACCAAGGAGATGAAGCAAACACATTAAGCCT 66
          |||||||||||||||||||||||||||||||||||||||| |||||||||||||||||||
Db    1251 AGATGCAGAAAATTGCCTAAAGAGGAAGGACCAAGGAGATNAAGCAAACACATTAAGCCT 1310

Qy      67 TCCACACTCACCTCTAAAACAGTCCTTCAAA-CTTCCAGTGCAACACTGAAGCTCTTGAA 125
          |||||||||||||||||||||||||||||| |||||||||||||||||||||||||| ||
Db    1311 TCCACACTCACCTCTAAAACAGTCCTTCAAACCTTCCAGTGCAACACTGAAGCTCTT-AA 1369

Qy     126 GACACTGAAATATACACACAGCAGTAGCAGTAGATGCATGTACCCTAAGGTCATTACCAC 185
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    1370 GACACTGAAATATACACACAGCAGTAGCAGTAGATGCATGTACCCTAAGGTCATTACCAC 1429

Qy     186 AGGCCAGGGGCTGGGCAGCGTACTCATCATCAACCCTAAAAAGCAGAGCTTTGCTTCTCT 245
          |||||| |||||||||||||||||||||||| |||||||||||||||||||||||||||
Db    1430 AGGCCA-GGGCTGGGCAGCGTACTCATCATCAA-CCTAAAAAGCAGAGCTTTGCTTCTCT 1487

Qy     246 CTCTAAAATGAGTTACCTACATTTTAATGCACCTGAATGTTAGATAGTTACTATATGCCG 305
          |||||||||||||||||| ||||||||||||||||||||||||||||||||||||||||
Db    1488 CTCTAAAATGAGTTACCTATATTTTAATGCACCTGAATGTTAGATAGTTACTATATGCCG 1547

Qy     306 CTACAAAAAGGTAAAACTTTTTATATTTTATACATTAACTTCAGCCAGCTATTGATATAA 365
          |||||||||||||||||||||||||||||||||||||||||||||||||||| ||||||
Db    1548 CTACAAAAAGGTAAAACTTTTTATATTTTATACATTAACTTCAGCCAGCTATT-ATATAA 1606

Qy     366 ATAAAACATTTTCACACAATACAATAAGTTAACTATTTTATTTTCTAATGTGCCTAGTTC 425
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    1607 ATAAAACATTTTCACACAATACAATAAGTTAACTATTTTATTTTCTAATGTGCCTAGTTC 1666

Qy     426 TTTCCCTGCTTAATGAAAAGCTT 448
          |||||||||||||||||||||||
Db    1667 TTTCCCTGCTTAATGAAAAGCTT 1689


RESULT 8
AAV07402
ID   AAV07402 standard; DNA; 1689 BP.
XX
AC   AAV07402;
XX
DT   28-SEP-1998  (first entry)
XX
DE   Human C-C chemokine receptor 3 genomic DNA.
XX
KW   C-C chemokine receptor 3; CKR-3; CCR3; Eos L2; human;
KW   G protein-coupled receptor; leukocyte; antibody; antagonist;
KW   inflammation; allergy; asthma; graft rejection; infection;
KW   autoimmune disease; drug screening; therapy; ds.
XX
OS   Homo sapiens.
XX
FH   Key             Location/Qualifiers
FT   CDS             181..1248
FT                   /*tag=  a
XX
PN   WO9814480-A1.
XX
PD   09-APR-1998.
XX
PF   24-SEP-1997;   97WO-US17103.
XX
PR   30-SEP-1996;   96US-0720565.
XX
PA   (LEUK-) LEUKOSITE INC.
XX
PI   Mackay CR,  Ponath PD;
XX
DR   WPI; 1998-286418/25.
DR   P-PSDB; AAW51744.
XX
PT   Antibodies to chemokine receptor-3 protein - useful for diagnosis
PT   and treatment of inflammatory conditions, e.g. allergy, asthma,
PT   autoimmune disease, graft rejection or cancer
XX
PS   Example 2; Fig 1A-C; 185pp; English.
XX
CC   This genomic DNA codes for novel human C-C chemokine receptor 3
CC   (see AAW51744), also designated CKR-3, CCR3 or Eos L2, that binds and
CC   mediates chemotaxis in response to chemokines such as eotaxin,
CC   RANTES and MCP-3.  The DNA was isolated from a human genomic phage
CC   library using as probe a PCR fragment that had been generated from
CC   eosinophil cDNA using primers (see AAV07405-12) based on known
CC   chemokine receptor genes.  A cDNA clone (see AAV07403) for CKR-3 is
CC   also provided.  Comparison of the sequences suggests that the
CC   genomic DNA has an intron that separates the promoter and most
CC   of the 5' untranslated region from the coding region.  A consensus
CC   of the genomic and cDNA sequences is provided (see AAV07404).  The
CC   invention relates to isolated and/or recombinant nucleic acids
CC   encoding CKR-3, isolated or recombinant CKR-3 polypeptides,
CC   recombinant nucleic acid constructs, host cells useful for
CC   production of recombinant CKR-3 proteins, to antibodies reactive
CC   with the receptors, and to methods of using these products to
CC   identify ligands, antagonists and agonists of receptor function.
CC   Inhibitors of CKR-3 can be used to treat: inflammatory or allergic
CC   diseases and conditions, including respiratory allergic diseases
CC   such as asthma, allergic rhinitis, hypersensitivity lung disease,
CC   hypersensitivity pneumonitis, eosinophilic pneumonia (e.g.
CC   Loeffler's syndrome, chronic eosinophilic pneumonia, interstitial
CC   lung disease (ILD) e.g. idiopathic pulmonary fibrosis or ILD
CC   associated with rheumatoid arthritis, systemic lupus erythematosus,
CC   ankylosing spondylitis, systemic sclerosis, Sjogren's syndrome,
CC   polymyositis or dermatomyositis), systemic anaphylaxis or
CC   hypersensitivity responses, drug allergy, insect sting allergy,
CC   inflammatory bowel disease, such as Crohn's disease and ulcerative
CC   colitis, spondyloarthropathy, scleroderma, psoriasis, inflammatory
CC   dermatosis such as dermatitis, eczema, atopic dermatitis,
CC   allergic contact dermatitis, urticaria, vasculitis (e.g. necrotizing,
CC   cutaneous and hypersensitivity vasculitis); eosinphilic myositis
CC   and eosinophilic fasciitis; autoimmune diseases such as rheumatoid
CC   arthritis, psoriatic arthritis, multiple sclerosis, systemic lupus
CC   erythematosus, myasthenia gravis, juvenile onset diabetes,
CC   glomerulonephritis, autoimmune thyroiditis and Behcet's disease;
CC   graft rejection, including allograft rejection or graft-versus-host
CC   disease; cancers with leukocyte infiltration of the skin or organs;
CC   and also reperfusion injury, atherosclerosis, certain haematologic
CC   malignancies, septic shock and endotoxic shock.  Promoters of CKR-3
CC   function can be used for treating: immunosuppression e.g. in AIDS
CC   patients or individuals undergoing radiation therapy, chemotherapy,
CC   therapy for autoimmune disease or other drug therapy, and
CC   immunosuppression due congenital deficiency in receptor function or
CC   other causes; and infectious diseases such as parasitic diseases,
CC   including helminth infections, such as nematodes (round worms).
CC   The agents can also be used for detection and diagnosis.
XX
SQ   Sequence 1689 BP; 431 A; 416 C; 344 G; 497 T; 1 other;

  Query Match             84.9%;  Score 380.4;  DB 19;  Length 1689;
  Best Local Similarity   98.4%;  Pred. No. 1.5e-87;
  Matches  436;  Conservative    0;  Mismatches    2;  Indels    5;  Gaps    5;

Qy       7 AGATGCAGAAAATTGCCTAAAGAGGAAGGACCAAGGAGATGAAGCAAACACATTAAGCCT 66
          |||||||||||||||||||||||||||||||||||||||| |||||||||||||||||||
Db    1251 AGATGCAGAAAATTGCCTAAAGAGGAAGGACCAAGGAGATNAAGCAAACACATTAAGCCT 1310

Qy      67 TCCACACTCACCTCTAAAACAGTCCTTCAAA-CTTCCAGTGCAACACTGAAGCTCTTGAA 125
          |||||||||||||||||||||||||||||| |||||||||||||||||||||||||| ||
Db    1311 TCCACACTCACCTCTAAAACAGTCCTTCAAACCTTCCAGTGCAACACTGAAGCTCTT-AA 1369

Qy     126 GACACTGAAATATACACACAGCAGTAGCAGTAGATGCATGTACCCTAAGGTCATTACCAC 185
```

```
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    1370 GACACTGAAATATACACACAGCAGTAGCAGTAGATGCATGTACCCTAAGGTCATTACCAC 1429

Qy     186 AGGCCAGGGGCTGGGCAGCGTACTCATCATCAACCCTAAAAAGCAGAGCTTTGCTTCTCT 245
          |||||| |||||||||||||||||||||||| ||||||||||||||||||||||||||||
Db    1430 AGGCCA-GGGCTGGGCAGCGTACTCATCATCAA-CCTAAAAAGCAGAGCTTTGCTTCTCT 1487

Qy     246 CTCTAAAATGAGTTACCTACATTTTAATGCACCTGAATGTTAGATAGTTACTATATGCCG 305
          |||||||||||||||||| ||||||||||||||||||||||||||||||||||||||||
Db    1488 CTCTAAAATGAGTTACCTATATTTTAATGCACCTGAATGTTAGATAGTTACTATATGCCG 1547

Qy     306 CTACAAAAAGGTAAAACTTTTTATATTTTATACATTAACTTCAGCCAGCTATTGATATAA 365
          |||||||||||||||||||||||||||||||||||||||||||||||||||||| ||||||
Db    1548 CTACAAAAAGGTAAAACTTTTTATATTTTATACATTAACTTCAGCCAGCTATT-ATATAA 1606

Qy     366 ATAAAACATTTTCACACAATACAATAAGTTAACTATTTTATTTTCTAATGTGCCTAGTTC 425
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    1607 ATAAAACATTTTCACACAATACAATAAGTTAACTATTTTATTTTCTAATGTGCCTAGTTC 1666

Qy     426 TTTCCCTGCTTAATGAAAAGCTT 448
          |||||||||||||||||||||||
Db    1667 TTTCCCTGCTTAATGAAAAGCTT 1689
```

RESULT 9
AAF21268
ID AAF21268 standard; DNA; 1689 BP.
XX
AC AAF21268;
XX
DT 14-MAR-2001 (first entry)
XX
DE Human low adenosine antisense oligonucleotide related sequence #2835.
XX
KW Low adenosine antisense oligonucleotide; phosphorothioate; allergy;
KW human; airway disorder; bronchoconstriction; lung inflammation;
KW surfactant depletion; respiratory; bronchodilator; antiinflammatory;
KW immunosuppressive; antiasthmatic; analgesic; hypotensive; cytostatic;
KW respiratory obstruction; pulmonary obstruction; impeded respiration;
KW surfactant hypoproduction; pulmonary vasoconstriction; asthma; RDS;
KW respiratory distress syndrome; pain; cystic fibrosis; allergic rhinitis;
KW pulmonary hypertension; emphysema; pulmonary transplantation rejection;
KW chronic obstructive pulmonary disease; pulmonary infection; bronchitis;
KW cancer; ss.
XX
OS Homo sapiens.
XX
PN WO200062736-A2.
XX
PD 26-OCT-2000.
XX
PF 24-MAR-2000; 2000WO-US08020.
XX
PR 06-APR-1999; 99US-0127958.
XX
PA (UYEC-) UNIV EAST CAROLINA.
PA (NYCE/) NYCE J W.
XX
PI Nyce JW;
XX
DR WPI; 2000-679539/66.
XX
PT Low adenosine (A) content antisense oligonucleotides which do not
PT trigger adenosine receptors during metabolism, useful e.g. for treating
PT cancers and respiratory obstructions -
XX
PS Disclosure; Page 1183; 1592pp; English.
XX
CC The present invention describes low adenosine (A) content antisense
CC oligonucleotides and compositions (I) comprising them. In the antisense
CC oligonucleotides the A is replaced by a 'Universal' or alternative base.
CC (I) can have respiratory, bronchodilator, antiinflammatory, analgesic,
CC immunosuppressive, antiasthmatic, hypotensive and cytostatic activities.
CC The antisense oligonucleotides and (I) can be used to down-regulate the
CC expression and or activity of target polypeptides associated with
CC lung/respiratory disorders and malignancies, such as stimulating and
CC activating peptide factors and transmitters, transcription factors,
CC immunoglobulins and antibodies, antibody receptors, cytokines and
CC chemokines, endogenously produced specific and non-specific enzymes,
CC binding proteins, adhesion molecules and their receptors, cytokine and
CC chemokine receptors, adenosine receptors, bradykinin receptors, central
CC nervous system (CNS) and peripheral nervous and non-nervous system
CC receptors, CNS and peripheral nervous and non-nervous system peptide
CC transmitters, defensins, growth factors, vasoactive peptides and
CC receptors, binding proteins and malignancy associated proteins. The
CC antisense oligonucleotides may be used in this way to treat disorders
CC including respiratory obstruction (especially pulmonary obstruction
CC and/or bronchoconstriction) and/or lung inflammation, allergy(ies)
CC and/or surfactant hypoproduction which are associated with a disease or
CC condition selected from pulmonary vasoconstriction, inflammation,
CC allergies, asthma, impeded respiration, respiratory distress syndrome
CC (RDS), pain, cystic fibrosis (CF), allergic rhinitis (AR), pulmonary
CC hypertension, emphysema, chronic obstructive pulmonary disease (COPD),
CC pulmonary transplantation rejection, pulmonary infections, bronchitis,
CC and/or cancer. AAF18434 to AAF21543 represent human polynucleotide
CC fragments and antisense oligonucleotides used in the exemplification of
CC the present invention.
XX
SQ Sequence 1689 BP; 430 A; 416 C; 345 G; 497 T; 1 other;

```
  Query Match             84.9%;  Score 380.4;  DB 21;  Length 1689;
  Best Local Similarity   98.4%;  Pred. No. 1.5e-87;
  Matches  436;  Conservative    0;  Mismatches    2;  Indels    5;  Gaps    5;

Qy       7 AGATGCAGAAAATTGCCTAAAGAGGAAGGACCAAGGAGATGAAGCAAACACATTAAGCCT 66
            |||||||||||||||||||||||||||||||||||||| ||||||||||||||||||
Db    1251 AGATGCAGAAAATTGCCTAAAGAGGAAGGACCAAGGAGATNAAGCAAACACATTAAGCCT 1310

Qy      67 TCCACACTCACCTCTAAAACAGTCCTTCAAA-CTTCCAGTGCAACACTGAAGCTCTTGAA 125
            |||||||||||||||||||||||||||||| |||||||||||||||||||||||| ||
Db    1311 TCCACACTCACCTCTAAAACAGTCCTTCAAACCTTCCAGTGCAACACTGAAGCTCTT-AA 1369

Qy     126 GACACTGAAATATACACACAGCAGTAGCAGTAGATGCATGTACCCTAAGGTCATTACCAC 185
            ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    1370 GACACTGAAATATACACACAGCAGTAGCAGTAGATGCATGTACCCTAAGGTCATTACCAC 1429

Qy     186 AGGCCAGGGGCTGGGCAGCGTACTCATCATCAACCCTAAAAAGCAGAGCTTTGCTTCTCT 245
            |||||| |||||||||||||||||||||||| |||||||||||||||||||||||||||
Db    1430 AGGCCA-GGGCTGGGCAGCGTACTCATCATCAA-CCTAAAAAGCAGAGCTTTGCTTCTCT 1487

Qy     246 CTCTAAAATGAGTTACCTACATTTTAATGCACCTGAATGTTAGATAGTTACTATATGCCG 305
            |||||||||||||||||| ||||||||||||||||||||||||||||||||||||||||
Db    1488 CTCTAAAATGAGTTACCTATATTTTAATGCACCTGAATGTTAGATAGTTACTATATGCCG 1547

Qy     306 CTACAAAAAGGTAAAACTTTTTATATTTTATACATTAACTTCAGCCAGCTATTGATATAA 365
            |||||||||||||||||||||||||||||||||||||||||||||||||||||| ||||||
Db    1548 CTACAAAAAGGTAAAACTTTTTATATTTTATACATTAACTTCAGCCAGCTATT-ATATAA 1606

Qy     366 ATAAAACATTTTCACACAATACAATAAGTTAACTATTTTATTTTCTAATGTGCCTAGTTC 425
            ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    1607 ATAAAACATTTTCACACAATACAATAAGTTAACTATTTTATTTTCTAATGTGCCTAGTTC 1666

Qy     426 TTTCCCTGCTTAATGAAAAGCTT 448
            |||||||||||||||||||||||
Db    1667 TTTCCCTGCTTAATGAAAAGCTT 1689
```

RESULT 10
AAA35146
ID AAA35146 standard; DNA; 1689 BP.
XX
AC AAA35146;
XX
DT 28-JUL-2000 (first entry)
XX
DE Human adenosine receptor related polynucleotide 2nd SEQ ID NO:20.

```
XX
KW   Human; adenosine receptor; low adenosine antisense oligonucleotide;
KW   phosphorothioate; impaired respiration; inflammation; allergy;
KW   allergic disease; bronchoconstriction; inhibitor; antiinflammatory;
KW   antiallergic; antiasthmatic; cytostatic; analgesic; impaired airway;
KW   lung disease; ischaemic condition; pulmonary vasoconstriction; asthma;
KW   respiratory distress syndrome; pain; cystic fibrosis; emphysema;
KW   pulmonary hypertension; chronic obstructive pulmonary disease; COPD;
KW   cancer; leukaemia; lymphoma; carcinoma; metastasis; ss.
XX
OS   Homo sapiens.
XX
PN   WO200009525-A2.
XX
PD   24-FEB-2000.
XX
PF   03-AUG-1999;   99WO-US17712.
XX
PR   03-AUG-1998;   98US-0095212.
XX
PA   (UYEC-) UNIV EAST CAROLINA.
XX
PI   Nyce JW;
XX
DR   WPI; 2000-205971/18.
XX
PT   New antisense oligonucleotides useful for treating e.g. pulmonary
PT   vasoconstriction, inflammation, allergies, asthma, hypertension,
PT   bronchitis, emphysema, respiratory distress syndrome, ischemia or
PT   cancers -
XX
PS   Disclosure; Page 1103; 1343pp; English.
XX
CC   The present invention describes a new composition comprising an
CC   antisense oligonucleotide (ON) with low adenosine (up to 15%), which
CC   targets nucleic acids involved in bronchoconstriction, allergies, and/or
CC   inflammation. The ON can have antiinflammatory, antiallergic,
CC   antiasthmatic, cytostatic and analgesic activities. The compositions are
CC   useful for the treatment of diseases associated with inflammation,
CC   impaired airways, including lung disease and diseases whose secondary
CC   effects afflict the lungs of a subject. They can be used for treating
CC   e.g. ischaemic conditions, pulmonary vasoconstriction, allergies,
CC   asthma, impeded respiration, respiratory distress syndrome, pain, cystic
CC   fibrosis, pulmonary hypertension, emphysema, chronic obstructive
CC   pulmonary disease (COPD), and cancers such as leukaemias, lymphomas,
CC   carcinomas, and cancers which may metastasise to the lungs, including
CC   breast and prostate cancer. The reduction of the adenosine content of
CC   the ONs reduces side effects. The A-containing ONs break down with the
CC   release of deoxyadenosine which activates adenosine receptors causing
CC   bronchoconstriction and inflammation. AAA32313 to AAA35312 represent the
CC   nucleotide sequences given in the sequence listing from the present
CC   invention, which correspond to SEQ ID NO:1 to 2815, and then the last
CC   185 sequences are also called SEQ ID NO:1 to 185, but the sequences
CC   differ from the previously named sequences. SEQ ID NO:11 to 1680
CC   (AAA32323 to AAA33992) are specifically claimed ONs from the present
CC   invention. N.B. Sequences given in the disclosure of the present
CC   invention do not match up with their corresponding SEQ ID NO: sequences
CC   given in the sequence listing.
XX
SQ   Sequence 1689 BP; 430 A; 416 C; 345 G; 497 T; 1 other;

  Query Match             84.9%;  Score 380.4;  DB 21;  Length 1689;
  Best Local Similarity   98.4%;  Pred. No. 1.5e-87;
  Matches  436;  Conservative    0;  Mismatches    2;  Indels    5;  Gaps    5;

Qy       7 AGATGCAGAAAATTGCCTAAAGAGGAAGGACCAAGGAGATGAAGCAAACACATTAAGCCT 66
           |||||||||||||||||||||||||||||||||||||||| ||||||||||||||||||
Db    1251 AGATGCAGAAAATTGCCTAAAGAGGAAGGACCAAGGAGATNAAGCAAACACATTAAGCCT 1310

Qy      67 TCCACACTCACCTCTAAAACAGTCCTTCAAA-CTTCCAGTGCAACACTGAAGCTCTTGAA 125
           |||||||||||||||||||||||||||||| |||||||||||||||||||||||||| ||
Db    1311 TCCACACTCACCTCTAAAACAGTCCTTCAAACCTTCCAGTGCAACACTGAAGCTCTT-AA 1369

Qy     126 GACACTGAAATATACACACAGCAGTAGCAGTAGATGCATGTACCCTAAGGTCATTACCAC 185
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    1370 GACACTGAAATATACACACAGCAGTAGCAGTAGATGCATGTACCCTAAGGTCATTACCAC 1429

Qy     186 AGGCCAGGGGCTGGGCAGCGTACTCATCATCAACCCTAAAAAGCAGAGCTTTGCTTCTCT 245
           |||||| |||||||||||||||||||||||| |||||||||||||||||||||||||||
Db    1430 AGGCCA-GGGCTGGGCAGCGTACTCATCATCAA-CCTAAAAAGCAGAGCTTTGCTTCTCT 1487

Qy     246 CTCTAAAATGAGTTACCTACATTTTAATGCACCTGAATGTTAGATAGTTACTATATGCCG 305
           |||||||||||||||||| ||||||||||||||||||||||||||||||||||||||||
Db    1488 CTCTAAAATGAGTTACCTATATTTTAATGCACCTGAATGTTAGATAGTTACTATATGCCG 1547

Qy     306 CTACAAAAAGGTAAAACTTTTTATATTTTATACATTAACTTCAGCCAGCTATTGATATAA 365
           |||||||||||||||||||||||||||||||||||||||||||||||||||| ||||||
Db    1548 CTACAAAAAGGTAAAACTTTTTATATTTTATACATTAACTTCAGCCAGCTATT-ATATAA 1606

Qy     366 ATAAAACATTTTCACACAATACAATAAGTTAACTATTTTATTTTCTAATGTGCCTAGTTC 425
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    1607 ATAAAACATTTTCACACAATACAATAAGTTAACTATTTTATTTTCTAATGTGCCTAGTTC 1666

Qy     426 TTTCCCTGCTTAATGAAAAGCTT 448
           |||||||||||||||||||||||
Db    1667 TTTCCCTGCTTAATGAAAAGCTT 1689


RESULT 11
ABL40462
ID   ABL40462 standard; cDNA; 1689 BP.
XX
AC   ABL40462;
XX
DT   10-JUN-2002  (first entry)
XX
DE   Human C-C chemokine receptor 3 (CCR3) protein encoding cDNA.
XX
KW   Mucosae-associated epithelial chemokine; MEC; C-C chemokine receptor;
KW   CCR3; CCR10; anti-inflammatory; cytostatic; immunomodulator; anti-viral;
KW   antibacterial; chemokine; human; gene; ss.
XX
OS   Homo sapiens.
XX
FH   Key             Location/Qualifiers
FT   CDS             181..1248
FT                   /*tag= a
FT                   /product= "CCR3"
XX
PN   WO200214532-A2.
XX
PD   21-FEB-2002.
XX
PF   15-AUG-2001; 2001WO-US25734.
XX
PR   15-AUG-2000; 2000US-0638914.
XX
PA   (MILL-) MILLENNIUM PHARM INC.
PA   (STRD ) UNIV LELAND STANFORD JUNIOR.
XX
PI   Butcher EC,  Kunkel EJ,  Pan J,  Soler-Ferran D;
XX
DR   WPI; 2002-269204/31.
DR   P-PSDB; ABB07733.
XX
PT   Identifying modulators of mucosae-associated epithelial chemokine (MEC)
PT   receptors 3 or 10 (CCR3/10), useful for treating inflammatory diseases,
PT   comprises detecting formation of MEC-CCR3/10 complex or modulation of a
PT   MEC-induced response -
XX
PS   Example 2; Fig 4A-B; 92pp; English.
XX
CC   The invention relates to identifying agents that inhibit or promote the
CC   binding of a mammalian mucosae-associated epithelial chemokine (MEC) to
CC   a mammalian C-C chemokine receptor 3 (CCR3) or 10 (CCR10). The method
CC   involves: (a) detecting or measuring the formation of a complex between
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CC   the MEC, and the CCR3 or CCR10; or (b) determining the ability of the
CC   test agent to inhibit or augment a MEC-induced response. An augmentation
CC   of complex formation, relative to a control, is indicative that the agent
CC   is a promoter. The method is useful for identifying modulators (e.g.
CC   inhibitors or promoter) of MEC-induced functions of CCR3 and/or CCR10.
CC   The inhibitors are useful for treating inflammatory diseases or
CC   conditions in a subject, e.g. oral inflammatory condition (e.g. Sjogren's
CC   syndrome or Behcet's syndrome), mastitis, chronic obstructive lung
CC   disease, asthma, inflammatory bowel disease (e.g. Crohn's disease,
CC   ulcerative colitis or celiac disease), IgA nephropathy or dermatitis
CC   herpetiformis. The promoters are useful for treating cancers (e.g. solid
CC   tumours or cutaneous T cell lymphoma), neoplastic disease, retinopathy,
CC   macular degeneration, bacterial infections, tuberculoid leprosy, viral
CC   infections, AIDS, neutropenias or bronchiectasis. The present sequence
CC   represents the human CCR3 protein encoding cDNA.
XX
SQ   Sequence 1689 BP; 430 A; 416 C; 345 G; 497 T; 1 other;

  Query Match             84.9%;  Score 380.4;  DB 24;  Length 1689;
  Best Local Similarity   98.4%;  Pred. No. 1.5e-87;
  Matches  436;  Conservative    0;  Mismatches    2;  Indels    5;  Gaps    5;

Qy       7 AGATGCAGAAAATTGCCTAAAGAGGAAGGACCAAGGAGATGAAGCAAACACATTAAGCCT 66
           |||||||||||||||||||||||||||||||||||||||||| |||||||||||||||||||
Db    1251 AGATGCAGAAAATTGCCTAAAGAGGAAGGACCAAGGAGATNAAGCAAACACATTAAGCCT 1310

Qy      67 TCCACACTCACCTCTAAAACAGTCCTTCAAA-CTTCCAGTGCAACACTGAAGCTCTTGAA 125
           |||||||||||||||||||||||||||||| |||||||||||||||||||||||||| ||
Db    1311 TCCACACTCACCTCTAAAACAGTCCTTCAAACCTTCCAGTGCAACACTGAAGCTCTT-AA 1369

Qy     126 GACACTGAAATATACACACAGCAGTAGCAGTAGATGCATGTACCCTAAGGTCATTACCAC 185
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    1370 GACACTGAAATATACACACAGCAGTAGCAGTAGATGCATGTACCCTAAGGTCATTACCAC 1429

Qy     186 AGGCCAGGGGCTGGGCAGCGTACTCATCATCAACCCTAAAAAGCAGAGCTTTGCTTCTCT 245
           |||||| |||||||||||||||||||||||| |||||||||||||||||||||||||||
Db    1430 AGGCCA-GGGCTGGGCAGCGTACTCATCATCAA-CCTAAAAAGCAGAGCTTTGCTTCTCT 1487

Qy     246 CTCTAAAATGAGTTACCTACATTTTAATGCACCTGAATGTTAGATAGTTACTATATGCCG 305
           |||||||||||||||||| |||||||||||||||||||||||||||||||||||||||||
Db    1488 CTCTAAAATGAGTTACCTATATTTTAATGCACCTGAATGTTAGATAGTTACTATATGCCG 1547

Qy     306 CTACAAAAAGGTAAAACTTTTTATATTTTATACATTAACTTCAGCCAGCTATTGATATAA 365
           |||||||||||||||||||||||||||||||||||||||||||||||||||| ||||||
Db    1548 CTACAAAAAGGTAAAACTTTTTATATTTTATACATTAACTTCAGCCAGCTATT-ATATAA 1606

Qy     366 ATAAAACATTTTCACACAATACAATAAGTTAACTATTTTATTTTCTAATGTGCCTAGTTC 425
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    1607 ATAAAACATTTTCACACAATACAATAAGTTAACTATTTTATTTTCTAATGTGCCTAGTTC 1666

Qy     426 TTTCCCTGCTTAATGAAAAGCTT 448
           |||||||||||||||||||||||
Db    1667 TTTCCCTGCTTAATGAAAAGCTT 1689


RESULT 12
AAF21269
ID   AAF21269 standard; DNA; 3958 BP.
XX
AC   AAF21269;
XX
DT   14-MAR-2001  (first entry)
XX
DE   Human low adenosine antisense oligonucleotide related sequence #2836.
XX
KW   Low adenosine antisense oligonucleotide; phosphorothioate; allergy;
KW   human; airway disorder; bronchoconstriction; lung inflammation;
KW   surfactant depletion; respiratory; bronchodilator; antiinflammatory;
KW   immunosuppressive; antiasthmatic; analgesic; hypotensive; cytostatic;
KW   respiratory obstruction; pulmonary obstruction; impeded respiration;
KW   surfactant hypoproduction; pulmonary vasoconstriction; asthma; RDS;
KW   respiratory distress syndrome; pain; cystic fibrosis; allergic rhinitis;
KW   pulmonary hypertension; emphysema; pulmonary transplantation rejection;
KW   chronic obstructive pulmonary disease; pulmonary infection; bronchitis;
KW   cancer; ss.
XX
OS   Homo sapiens.
XX
PN   WO200062736-A2.
XX
PD   26-OCT-2000.
XX
PF   24-MAR-2000; 2000WO-US08020.
XX
PR   06-APR-1999;   99US-0127958.
XX
PA   (UYEC-) UNIV EAST CAROLINA.
PA   (NYCE/) NYCE J W.
XX
PI   Nyce JW;
XX
DR   WPI; 2000-679539/66.
XX
PT   Low adenosine (A) content antisense oligonucleotides which do not
PT   trigger adenosine receptors during metabolism, useful e.g. for treating
PT   cancers and respiratory obstructions -
XX
PS   Disclosure; Page 1183-1184; 1592pp; English.
XX
CC   The present invention describes low adenosine (A) content antisense
CC   oligonucleotides and compositions (I) comprising them. In the antisense
CC   oligonucleotides the A is replaced by a 'Universal' or alternative base.
CC   (I) can have respiratory, bronchodilator, antiinflammatory, analgesic,
CC   immunosuppressive, antiasthmatic, hypotensive and cytostatic activities.
CC   The antisense oligonucleotides and (I) can be used to down-regulate the
CC   expression and or activity of target polypeptides associated with
CC   lung/respiratory disorders and malignancies, such as stimulating and
CC   activating peptide factors and transmitters, transcription factors,
CC   immunoglobulins and antibodies, antibody receptors, cytokines and
CC   chemokines, endogenously produced specific and non-specific enzymes,
CC   binding proteins, adhesion molecules and their receptors, cytokine and
CC   chemokine receptors, adenosine receptors, bradykinin receptors, central
CC   nervous system (CNS) and peripheral nervous and non-nervous system
CC   receptors, CNS and peripheral nervous and non-nervous system peptide
CC   transmitters, defensins, growth factors, vasoactive peptides and
CC   receptors, binding proteins and malignancy associated proteins. The
CC   antisense oligonucleotides may be used in this way to treat disorders
CC   including respiratory obstruction (especially pulmonary obstruction
CC   and/or bronchoconstriction) and/or lung inflammation, allergy(ies)
CC   and/or surfactant hypoproduction which are associated with a disease or
CC   condition selected from pulmonary vasoconstriction, inflammation,
CC   allergies, asthma, impeded respiration, respiratory distress syndrome
CC   (RDS), pain, cystic fibrosis (CF), allergic rhinitis (AR), pulmonary
CC   hypertension, emphysema, chronic obstructive pulmonary disease (COPD),
CC   pulmonary transplantation rejection, pulmonary infections, bronchitis,
CC   and/or cancer. AAF18434 to AAF21543 represent human polynucleotide
CC   fragments and antisense oligonucleotides used in the exemplification of
CC   the present invention.
XX
SQ   Sequence 3958 BP; 939 A; 1025 C; 855 G; 1138 T; 1 other;

  Query Match             84.9%;  Score 380.4;  DB 21;  Length 3958;
  Best Local Similarity   98.4%;  Pred. No. 1.9e-87;
  Matches  436;  Conservative    0;  Mismatches    2;  Indels    5;  Gaps    5;

Qy       7 AGATGCAGAAAATTGCCTAAAGAGGAAGGACCAAGGAGATGAAGCAAACACATTAAGCCT 66
           |||||||||||||||||||||||||||||||||||||||||| |||||||||||||||||||
Db    3520 AGATGCAGAAAATTGCCTAAAGAGGAAGGACCAAGGAGATNAAGCAAACACATTAAGCCT 3579

Qy      67 TCCACACTCACCTCTAAAACAGTCCTTCAAA-CTTCCAGTGCAACACTGAAGCTCTTGAA 125
           |||||||||||||||||||||||||||||| |||||||||||||||||||||||||| ||
Db    3580 TCCACACTCACCTCTAAAACAGTCCTTCAAACCTTCCAGTGCAACACTGAAGCTCTT-AA 3638

Qy     126 GACACTGAAATATACACACAGCAGTAGCAGTAGATGCATGTACCCTAAGGTCATTACCAC 185
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    3639 GACACTGAAATATACACACAGCAGTAGCAGTAGATGCATGTACCCTAAGGTCATTACCAC 3698
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Qy     186 AGGCCAGGGGCTGGGCAGCGTACTCATCATCAACCCTAAAAAGCAGAGCTTTGCTTCTCT 245
           |||||| |||||||||||||||||||||||||| |||||||||||||||||||||||||
Db    3699 AGGCCA-GGGCTGGGCAGCGTACTCATCATCAA-CCTAAAAAGCAGAGCTTTGCTTCTCT 3756

Qy     246 CTCTAAAATGAGTTACCTACATTTTAATGCACCTGAATGTTAGATAGTTACTATATGCCG 305
           |||||||||||||||||| ||||||||||||||||||||||||||||||||||||||||
Db    3757 CTCTAAAATGAGTTACCTATATTTTAATGCACCTGAATGTTAGATAGTTACTATATGCCG 3816

Qy     306 CTACAAAAAGGTAAAACTTTTTATATTTTATACATTAACTTCAGCCAGCTATTGATATAA 365
           |||||||||||||||||||||||||||||||||||||||||||||||||||||| ||||||
Db    3817 CTACAAAAAGGTAAAACTTTTTATATTTTATACATTAACTTCAGCCAGCTATT-ATATAA 3875

Qy     366 ATAAAACATTTTCACACAATACAATAAGTTAACTATTTTATTTTCTAATGTGCCTAGTTC 425
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    3876 ATAAAACATTTTCACACAATACAATAAGTTAACTATTTTATTTTCTAATGTGCCTAGTTC 3935

Qy     426 TTTCCCTGCTTAATGAAAAGCTT 448
           |||||||||||||||||||||||
Db    3936 TTTCCCTGCTTAATGAAAAGCTT 3958
```

RESULT 13
AAA35147
ID AAA35147 standard; DNA; 3958 BP.
XX
AC AAA35147;
XX
DT 28-JUL-2000 (first entry)
XX
DE Human adenosine receptor related polynucleotide 2nd SEQ ID NO:21.
XX
KW Human; adenosine receptor; low adenosine antisense oligonucleotide;
KW phosphorothioate; impaired respiration; inflammation; allergy;
KW allergic disease; bronchoconstriction; inhibitor; antiinflammatory;
KW antiallergic; antiasthmatic; cytostatic; analgesic; impaired airway;
KW lung disease; ischaemic condition; pulmonary vasoconstriction; asthma;
KW respiratory distress syndrome; pain; cystic fibrosis; emphysema;
KW pulmonary hypertension; chronic obstructive pulmonary disease; COPD;
KW cancer; leukaemia; lymphoma; carcinoma; metastasis; ss.
XX
OS Homo sapiens.
XX
PN WO200009525-A2.
XX
PD 24-FEB-2000.
XX
PF 03-AUG-1999; 99WO-US17712.
XX
PR 03-AUG-1998; 98US-0095212.
XX
PA (UYEC-) UNIV EAST CAROLINA.
XX
PI Nyce JW;
XX
DR WPI; 2000-205971/18.
XX
PT New antisense oligonucleotides useful for treating e.g. pulmonary
PT vasoconstriction, inflammation, allergies, asthma, hypertension.
PT bronchitis, emphysema, respiratory distress syndrome, ischemia or
PT cancers -
XX
PS Disclosure; Page 1103-1104; 1343pp; English.
XX
CC The present invention describes a new composition comprising an
CC antisense oligonucleotide (ON) with low adenosine (up to 15%), which
CC targets nucleic acids involved in bronchoconstriction, allergies, and/or
CC inflammation. The ON can have antiinflammatory, antiallergic,
CC antiasthmatic, cytostatic and analgesic activities. The compositions are
CC useful for the treatment of diseases associated with inflammation,
CC impaired airways, including lung disease and diseases whose secondary
CC effects afflict the lungs of a subject. They can be used for treating
CC e.g. ischaemic conditions, pulmonary vasoconstriction, allergies,
CC asthma, impeded respiration, respiratory distress syndrome, pain, cystic
CC fibrosis, pulmonary hypertension, emphysema, chronic obstructive
CC pulmonary disease (COPD), and cancers such as leukaemias, lymphomas,
CC carcinomas, and cancers which may metastasise to the lungs, including
CC breast and prostate cancer. The reduction of the adenosine content of
CC the ONs reduces side effects. The A-containing ONs break down with the
CC release of deoxyadenosine which activates adenosine receptors causing
CC bronchoconstriction and inflammation. AAA32313 to AAA35312 represent the
CC nucleotide sequences given in the sequence listing from the present
CC invention, which correspond to SEQ ID NO:1 to 2815, and then the last
CC 185 sequences are also called SEQ ID NO:1 to 185, but the sequences
CC differ from the previously named sequences. SEQ ID NO:11 to 1680
CC (AAA32323 to AAA33992) are specifically claimed ONs from the present
CC invention. N.B. Sequences given in the disclosure of the present
CC invention do not match up with their corresponding SEQ ID NO: sequences
CC given in the sequence listing.
XX
SQ Sequence 3958 BP; 939 A; 1025 C; 855 G; 1138 T; 1 other;

Query Match 84.9%; Score 380.4; DB 21; Length 3958;
Best Local Similarity 98.4%; Pred. No. 1.9e-87;
Matches 436; Conservative 0; Mismatches 2; Indels 5; Gaps 5;

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Qy       7 AGATGCAGAAAATTGCCTAAAGAGGAAGGACCAAGGAGATGAAGCAAACACATTAAGCCT 66
           |||||||||||||||||||||||||||||||||||||||| ||||||||||||||||||
Db    3520 AGATGCAGAAAATTGCCTAAAGAGGAAGGACCAAGGAGATNAAGCAAACACATTAAGCCT 3579

Qy      67 TCCACACTCACCTCTAAAACAGTCCTTCAAA-CTTCCAGTGCAACACTGAAGCTCTTGAA 125
           |||||||||||||||||||||||||||||| |||||||||||||||||||||||||| ||
Db    3580 TCCACACTCACCTCTAAAACAGTCCTTCAAACCTTCCAGTGCAACACTGAAGCTCTT-AA 3638

Qy     126 GACACTGAAATATACACACAGCAGTAGCAGTAGATGCATGTACCCTAAGGTCATTACCAC 185
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    3639 GACACTGAAATATACACACAGCAGTAGCAGTAGATGCATGTACCCTAAGGTCATTACCAC 3698

Qy     186 AGGCCAGGGGCTGGGCAGCGTACTCATCATCAACCCTAAAAAGCAGAGCTTTGCTTCTCT 245
           |||||| |||||||||||||||||||||||||| |||||||||||||||||||||||||
Db    3699 AGGCCA-GGGCTGGGCAGCGTACTCATCATCAA-CCTAAAAAGCAGAGCTTTGCTTCTCT 3756

Qy     246 CTCTAAAATGAGTTACCTACATTTTAATGCACCTGAATGTTAGATAGTTACTATATGCCG 305
           |||||||||||||||||| ||||||||||||||||||||||||||||||||||||||||
Db    3757 CTCTAAAATGAGTTACCTATATTTTAATGCACCTGAATGTTAGATAGTTACTATATGCCG 3816

Qy     306 CTACAAAAAGGTAAAACTTTTTATATTTTATACATTAACTTCAGCCAGCTATTGATATAA 365
           |||||||||||||||||||||||||||||||||||||||||||||||||||||| ||||||
Db    3817 CTACAAAAAGGTAAAACTTTTTATATTTTATACATTAACTTCAGCCAGCTATT-ATATAA 3875

Qy     366 ATAAAACATTTTCACACAATACAATAAGTTAACTATTTTATTTTCTAATGTGCCTAGTTC 425
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    3876 ATAAAACATTTTCACACAATACAATAAGTTAACTATTTTATTTTCTAATGTGCCTAGTTC 3935

Qy     426 TTTCCCTGCTTAATGAAAAGCTT 448
           |||||||||||||||||||||||
Db    3936 TTTCCCTGCTTAATGAAAAGCTT 3958
```

RESULT 14
ABL32337/c
ID ABL32337 standard; DNA; 7201 BP.
XX
AC ABL32337;
XX
DT 26-MAR-2002 (first entry)
XX
DE Human immune system associated gene SEQ ID NO: 310.
XX
KW Human; immune system disease; cytosine methylation; antiasthmatic;
KW antiarteriosclerotic; antianaemic; cytostatic; nootropic;
KW neuroprotective; anti-HIV; anticonvulsant; ophthalmological;
KW antirheumatic; antiarthritic; antidiabetic; antipsoriatic;
KW antiinflammatory; cancer; eye disease; arteriosclerosis; anaemia;
KW acute myeloid leukaemia; Alzheimer's disease; AIDS; epilepsy;
KW neurofibromatosis; rheumatoid arthritis; psoriasis; bowel disease;

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KW   gene; ds.
XX
OS   Homo sapiens.
XX
PN   WO200200928-A2.
XX
PD   03-JAN-2002.
XX
PF   02-JUL-2001; 2001WO-EP07537.
XX
PR   30-JUN-2000; 2000DE-1032529.
PR   01-SEP-2000; 2000DE-1043826.
XX
PA   (EPIG-) EPIGENOMICS AG.
XX
PI   Olek A,  Piepenbrock C,  Berlin K;
XX
DR   WPI; 2002-130909/17.
XX
PT   Nucleic acid comprising fragment of chemically modified gene, useful
PT   for diagnosis and treatment of diseases associated with abnormal
PT   cytosine methylation  -
XX
PS   Claim 1; SEQ ID NO 310; 32pp + Sequence Listing; German.
XX
CC   The present invention provides a number of human immune system associated
CC   genes which are modified by the methylation of cytosines. The sequences
CC   can be used in the diagnosis and treatment of immune system disorders,
CC   including eye diseases such as retinopathy, neovascular glaucoma and
CC   macular degeneration, arteriosclerosis, anaemia, cancer, acute myeloid
CC   leukaemia, Alzheimer's disease, AIDS, epilepsy, neurofibromatosis,
CC   rheumatoid arthritis, psoriasis and inflammatory/ulcerative bowel
CC   diseases. The present sequence is a gene of the invention.
XX
SQ   Sequence 7201 BP; 2131 A; 65 C; 1603 G; 3402 T; 0 other;

  Query Match             75.7%;  Score 339.2;  DB 24;  Length 7201;
  Best Local Similarity   84.8%;  Pred. No. 7.5e-77;
  Matches  380;  Conservative    0;  Mismatches   68;  Indels    0;  Gaps    0;

Qy      1 TAGGTCAGATGCAGAAAATTGCCTAAAGAGGAAGGACCAAGGAGATGAAGCAAACACATT 60
          ||  ||| || || |||||| |||||| |  ||  |||||  | || || ||||||||||
Db   1105 TAAATCAAATACAAAAAATTACCTAAAAAAAAAAAACCAAAAAAATAAAACAAACACATT 1046

Qy     61 AAGCCTTCCACACTCACCTCTAAAACAGTCCTTCAAACTTCCAGTGCAACACTGAAGCTC 120
          || ||||||||||||||||||||||| |||||||||||||| | ||||||| || |||
Db   1045 AAACCTTCCACACTCACCTCTAAAACAATCCTTCAAACTTCCAATACAACACTAAAACTC 986

Qy    121 TTGAAGACACTGAAATATACACACAGCAGTAGCAGTAGATGCATGTACCCTAAGGTCATT 180
          || || ||||| |||||||||||| || || || || || ||| |||||||| |||||
Db    985 TTAAAAACACTAAAATATACACACAACAATAACAATAAATACATATACCCTAAAATCATT 926

Qy    181 ACCACAGGCCAGGGGCTGGGCAGCGTACTCATCATCAACCCTAAAAAGCAGAGCTTTGCT 240
          ||||||  |||    ||   || |||||||||||||||||||||||| || | |||| ||
Db    925 ACCACAAACCAAAAACTAAACAACGTACTCATCATCAACCCTAAAAAACAAAACTTTACT 866

Qy    241 TCTCTCTCTAAAATGAGTTACCTACATTTTAATGCACCTGAATGTTAGATAGTTACTATA 300
          |||||||||||||| | |||||||||||||||| ||||| ||| ||| ||| ||||||||
Db    865 TCTCTCTCTAAAATAAATTACCTACATTTTAATACACCTAAATATTAAATAATTACTATA 806

Qy    301 TGCCGCTACAAAAAGGTAAAACTTTTTATATTTTATACATTAACTTCAGCCAGCTATTGA 360
          | ||||||||||||  |||||||||||||||||||||||||||||||| ||| ||||| |
Db    805 TACCGCTACAAAAAAATAAAACTTTTTATATTTTATACATTAACTTCAACCAACTATTAA 746

Qy    361 TATAAATAAAACATTTTCACACAATACAATAAGTTAACTATTTTATTTTCTAATGTGCCT 420
          |||||||||||||||||||||||||||||||| |||||||||||||||||||| | |||
Db    745 TATAAATAAAACATTTTCACACAATACAATAAATTAACTATTTTATTTTCTAATATACCT 686

Qy    421 AGTTCTTTCCCTGCTTAATGAAAAGCTT 448
          | |||||||||| |||||| |||| |||
Db    685 AATTCTTTCCCTACTTAATAAAAAACTT 658
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RESULT 15
ABL32336
ID   ABL32336 standard; DNA; 7201 BP.
XX
AC   ABL32336;
XX
DT   26-MAR-2002  (first entry)
XX
DE   Human immune system associated gene SEQ ID NO: 309.
XX
KW   Human; immune system disease; cytosine methylation; antiasthmatic;
KW   antiarteriosclerotic; antianaemic; cytostatic; nootropic;
KW   neuroprotective; anti-HIV; anticonvulsant; ophthalmological;
KW   antirheumatic; antiarthritic; antidiabetic; antipsoriatic;
KW   antiinflammatory; cancer; eye disease; arteriosclerosis; anaemia;
KW   acute myeloid leukaemia; Alzheimer's disease; AIDS; epilepsy;
KW   neurofibromatosis; rheumatoid arthritis; psoriasis; bowel disease;
KW   gene; ds.
XX
OS   Homo sapiens.
XX
PN   WO200200928-A2.
XX
PD   03-JAN-2002.
XX
PF   02-JUL-2001; 2001WO-EP07537.
XX
PR   30-JUN-2000; 2000DE-1032529.
PR   01-SEP-2000; 2000DE-1043826.
XX
PA   (EPIG-) EPIGENOMICS AG.
XX
PI   Olek A,  Piepenbrock C,  Berlin K;
XX
DR   WPI; 2002-130909/17.
XX
PT   Nucleic acid comprising fragment of chemically modified gene, useful
PT   for diagnosis and treatment of diseases associated with abnormal
PT   cytosine methylation  -
XX
PS   Claim 1; SEQ ID NO 309; 32pp + Sequence Listing; German.
XX
CC   The present invention provides a number of human immune system associated
CC   genes which are modified by the methylation of cytosines. The sequences
CC   can be used in the diagnosis and treatment of immune system disorders,
CC   including eye diseases such as retinopathy, neovascular glaucoma and
CC   macular degeneration, arteriosclerosis, anaemia, cancer, acute myeloid
CC   leukaemia, Alzheimer's disease, AIDS, epilepsy, neurofibromatosis,
CC   rheumatoid arthritis, psoriasis and inflammatory/ulcerative bowel
CC   diseases. The present sequence is a gene of the invention.
XX
SQ   Sequence 7201 BP; 2074 A; 65 C; 1393 G; 3669 T; 0 other;

  Query Match             65.7%;  Score 294.4;  DB 24;  Length 7201;
  Best Local Similarity   78.6%;  Pred. No. 2.1e-65;
  Matches  352;  Conservative    0;  Mismatches   96;  Indels    0;  Gaps    0;

Qy      1 TAGGTCAGATGCAGAAAATTGCCTAAAGAGGAAGGACCAAGGAGATGAAGCAAACACATT 60
          ||||| ||||| ||||||||| |||||||||||| |||||||||||| ||| | |||
Db   6097 TAGGTTAGATGTAGAAAATTGTTTAAAGAGGAAGGATTAAGGAGATGAAGTAAATATATT 6156

Qy     61 AAGCCTTCCACACTCACCTCTAAAACAGTCCTTCAAACTTCCAGTGCAACACTGAAGCTC 120
          |||  ||  | | | |  | ||||| |||  || ||| ||  |||| || | ||||| |
Db   6157 AAGTTTTTTATATTTATTTTTAAAATAGTTTTTTAAATTTTTAGTGTAATATTGAAGTTT 6216

Qy    121 TTGAAGACACTGAAATATACACACAGCAGTAGCAGTAGATGCATGTACCCTAAGGTCATT 180
          ||||||| | ||||||||| | | || ||||| |||||||| |||||   |||||| |||
Db   6217 TTGAAGATATTGAAATATATATATAGTAGTAGTAGTAGATGTATGTATTTTAAGGTTATT 6276

Qy    181 ACCACAGGCCAGGGGCTGGGCAGCGTACTCATCATCAACCCTAAAAAGCAGAGCTTTGCT 240
          |  | |||  ||||| |||| |||||| | || || ||   ||||||| |||| |||| |
Db   6277 ATTATAGGTTAGGGGTTGGGTAGCGTATTTATTATTAATTTTAAAAAGTAGAGTTTTGTT 6336
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Qy     241 TCTCTCTCTAAAATGAGTTACCTACATTTTAATGCACCTGAATGTTAGATAGTTACTATA 300
           | | | | ||||||||||||  || |||||||| |  |||||||||||||||| ||||
Db    6337 TTTTTTTTTAAAATGAGTTATTTATATTTTAATGTATTTGAATGTTAGATAGTTATTATA 6396

Qy     301 TGCCGCTACAAAAAGGTAAAACTTTTTATATTTTATACATTAACTTCAGCCAGCTATTGA 360
           || || || |||||||||||| |||||||||||||| ||||| || ||  || ||||||
Db    6397 TGTCGTTATAAAAAGGTAAAATTTTTTATATTTTATATATTAATTTTAGTTAGTTATTGA 6456

Qy     361 TATAAATAAAACATTTTCACACAATACAATAAGTTAACTATTTTATTTTCTAATGTGCCT 420
           |||||||||| ||||| | | |||| ||||||||| |||||||||| |||||||  |
Db    6457 TATAAATAAAATATTTTTATATAATATAATAAGTTAATTATTTTATTTTTTAATGTGTTT 6516

Qy     421 AGTTCTTTCCCTGCTTAATGAAAAGCTT 448
           |||| |||   || |||||||||| ||
Db    6517 AGTTTTTTTTTTGTTTAATGAAAAGTTT 6544
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Job time : 132.328 secs